

14. The Oriental Species of the Genus *Callistominus* (Coleoptera, Carabidæ). By H. E. ANDREWES*.

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(Plate I.)

Having some new species to describe in this genus, I thought it would be desirable, if it were also possible, to deal in one paper with all the species at present known. I have been fortunate in securing the loan of a number of types, and in receiving permission to see others; in this connexion I have to offer my thanks to Dr. Gahan of the British Museum, Dr. Gestro of Genoa, Dr. W. Lundbeck of Copenhagen, Mr. René Oberthür, Mr. E. Fleutiaux, and Mr. Guy Babault. To Mr. Severin of Brussels my thanks are not less due, for at my request he made an exhaustive search in the Brussels Museum—unfortunately without result—for the types of the two species described by Putzeys.

In 1872 Chaudoir described the genus *Callistominus* (Bull. Mosc. ii. p. 382), which he differentiated from *Callistus* by the edentate mentum and some other characters. In the following year Bates described a new genus from China under the name of *Pristomacherus* (Trans. Ent. Soc. Lond. p. 323) for an insect (*P. messii*), which was widely different, especially in the form of the prothorax, from any species of the group then known. In describing a number of new species in 1892 (Ann. Mus. Civ. Gen. pp. 303–7), Bates discusses the relationship of the two genera, remarking in conclusion “so that there remains only the prolonged hind angles of the thorax, separated from the base by a deep sinuation, to distinguish *Pristomacherus*.”

In examining various species, including some hitherto undescribed, I find a number of links connecting the extreme forms of the prothorax; the difference is one of degree not of kind, and in such species as *Callistominus coarctatus* Laf. and *C. littoralis* Motsch. the hind angles of the prothorax are sharp and the sides of the base distinctly, though only slightly, emarginate. I have endeavoured for some little time past to keep the genera distinct, but I have now seen intermediate forms which render this no longer possible, and I therefore treat *Pristomacherus* as a synonym.

As in *Callistus* the outer maxillary lobe is in one piece. Bates pointed out, when describing *Pristomacherus*, that the maxillæ projected far beyond the mandibles, and this is sometimes the case. In connexion with this, however, there is frequently an optical illusion, which struck me when examining a long series of a new species. Normally the mandibles are tightly closed, and the maxillæ project as long slender shafts in front of them; when the mandibles are opened, it is seen that the relative difference in length of the two organs is considerably less than at first

* Communicated by S. A. NEAVE, B.A., F.Z.S.

sight appeared to be the case. There is also a point to note in connexion with the ligula, which, as in *Callistus*, is said to be bisetose. Actually there are two long setæ placed close together on the middle of the apical margin and directed a little downwards, but there are also some very fine setæ on each side. These latter seem very liable to abrasion, but apparently there are about three such minute hairs on each side of the apical margin.

Chaudoir thought that *Callistus* and its allies were related to *Anichonoderus*, and in this he was followed by Lacordaire. Schaum and G. H. Horn put them near *Chlenius*, and both Bates and Ganglbauer have followed this example. I agree with the latter, but think that the unjointed outer lobe of the maxillæ and the elongate inner one, together with the pubescent palpi necessitate a separate group, in which I follow so good an authority as Bates.

I propose in the following pages to give first of all a brief account of the generic characters, then a catalogue of the species, followed by a dichotomic table, and finally descriptions of the new species, together with additional notes on some of the old ones, where the information afforded by their authors appeared inadequate. In differentiating closely allied species I am aware that it is generally undesirable to rely too much upon colour, but in the insects which I am here considering, especially the smaller ones, the structural characters vary little, and I have been compelled to make use of the colour scheme in my table of species.

GENERIC CHARACTERS.

Ligula dilated and truncate at apex, bisetose but with some additional minute setæ at sides of apex; *paraglossæ* membranous, adnate to near apex, extremities rounded, extending rather beyond ligula. *Mentum* edentate, lobes sharply contracted in front, not much rounded, pointed at apex; epilobes narrow, extending slightly in advance of lobes. *Maxillæ* exceptionally long and narrow, with relatively few bristles on inner margin, especially in upper part, sharply hooked close to apex, outer lobe in one piece. *Palpi* long, slender, setose, pointed at apex, penultimate of labials plurisetose on inner margin. *Mandibles* long, almost edentate, wide at base, slender and very sharp, but hardly hooked, at apex. *Labrum* transverse, generally emarginate, sexsetose at apex, minutely setose at sides. *Clypeus* truncate, a seta not far from front angle on each side. *Eyes* prominent, one supraorbital seta. *Antennæ* thick, setose, densely so from joint 4.

Upper surface densely punctate and setose; hind angles of prothorax usually acute, with a more or less deep emargination between them and middle of base; hind body subpedunculate; elytra 9-striate, with a fairly long scutellary stria between suture and stria 1, base unbordered over first three intervals on each side, sides without sinuation or visible internal fold near

apex; under surface shiny, coarsely but not densely punctate, ventral surface more finely punctate, metepisterna not much longer than wide; legs slender, tarsi setose on upper surface, joint 1 longer than 2+3. ♂ front tarsi with three dilated joints, more or less quadrate with rounded angles (as in *Chlenius*), joint 1 narrowed towards base, densely pilose beneath, claws simple.

CATALOGUE.

- acuticollis (Callistus), Fairm. Ann. Soc. Ent. Fr. 1889, p. 6 = *gynnaeus*
(*Pristomachærus*) Maindr. Bull. Soc. Ent. Fr. 1909, p. 275. Yunnan.
belli, sp. n. S. India.
cauliops (Pristomachærus) Bates, Ann. Mus. Civ. Gen. 1892, p. 306. Burma.
ceylonicus Dupuis, Ann. Soc. Ent. Belg. 1913, p. 6. Var. of littoralis,
Motch. Ceylon.
chaleocephalus (Panagæus) Wied. Zool. Mag. ii. 1. 1823, p. 57; Chaud.
Bull. Mosc. 1861, iv. p. 351; id. Ann. Soc. Ent. Belg. 1878, p. 84;
Bates, Scientific Results Sec. Yark. Miss. 1891, p. 4 = *messii*
(*Pristomachærus*) Bates, Trans. Ent. Soc. Lond. 1873, p. 324. S. China,
Indo-China, N. India,
? Java.
chlorocephalus (Panagæus) Kollar, Ann. Wien. Mus. i. 1835, p. 335,
t. 31. f. 4; Chaud. Bull. Mosc. 1861, iv. p. 351; id. Ann. Soc.
Ent. Belg. 1878, p. 84. ? India.
coarctatus (Callistus) Laf. Ann. Soc. Ent. Fr. 1851, p. 230. N. India.
d'abreni, sp. n. N. and Cent. India.
dicksoni Wat. Ann. Mag. Nat. Hist. (5) xiv. 1884, p. 429; Andr.
Trans. Ent. Soc. Lond. 1919, p. 197. Formosa.
dux, sp. n. Burma.
eucharis (Pristomachærus) Bates, Ann. Mus. Civ. Gen. 1892, p. 305. Burma.
humeralis, var. nov. Var. of modestus Schaum. Indo-China, Burma, N. India.
insularis, var. nov. Var. of modestus Schaum. Java.
jucundus, sp. n. S. India.
lebioides (Pristomachærus) Bates, Ann. Mus. Civ. Gen. 1892, p. 306. Burma.
littoralis (Callistus) Motch. Et. Ent. 1859, p. 33; Bates, Comp. Rend.
Soc. Ent. Belg. 1891, p. 327 = *westwoodi* (Callistus) Schaum,
Berl. Ent. Zeit. 1863, p. 85. India.
modestus (Callistus) Schaum, Berl. Ent. Zeit. 1863, p. 85; Bates,
Trans. Ent. Soc. Lond. 1873, p. 246; id. Ann. Mus. Civ. Gen.
1892, p. 303; Fairm. Ann. Soc. Ent. Fr. 1888, p. 336. Japan, S. China,
Indo-China, Burma, N. India.
nair (Pristomachærus) Maindr. Bull. Soc. Ent. Fr. 1909, p. 276. S. India.
nilgirinus, var. nov. Var. of nair Maindr. S. India.
quadricolor (Pristomachærus) Putz. Stett. Ent. Zeit. 1877, p. 101.
? = eucharis Bates. N. India.
quadriguttatus (Pristomachærus) Putz. Stett. Ent. Zeit. 1877, p. 101.
? = chaleocephalus Wied. N. India.
quadristigma (Pristomachærus) Bates, Ann. Mus. Civ. Gen. 1892,
p. 303. Var. of chaleocephalus Wied. Indo-China, Burma.
rubellus (Pristomachærus) Bates, Ann. Mus. Civ. Gen. 1892, p. 305. Burma.
sikkimensis, sp. n. N. India.
subnotatus, sp. n. Cambodia.
suturalis Fleut. Ann. Soc. Ent. Fr. 1887, p. 61, t. 4. f. 2; Bates, Ann.
Soc. Ent. Fr. 1889, p. 205. Annam.
venustus, sp. n. Laos.
virescens, sp. n. Burma.
vitalisi, sp. n. Tonkin.

Key to the Species.

- 1 (14). Upper surface black to brassy green (prothorax sometimes reddish), elytra with red or yellow spots (sometimes fasciæ), prothorax closely and coarsely punctate.
- 2 (9). Prothorax green, elytra with red or yellow spots.
- 3 (6). Prothorax half as wide again as long, sides hardly sinuate before hind angles. Length 7·0–7·5 mm.
- 4 (5). Yellow spots on elytra smaller, front one from stria 5 to margin *chalecephalus* Wied.
- 5 (4). Yellow spots on elytra larger, front one from stria 4 to margin *v. quadristigma* Bates.
- 6 (3). Prothorax not more than a third as wide again as long, sides strongly sinuate before hind angles. Length 5·0–6·0 mm.
- 7 (8). Elytral spots red, front one covering shoulder and extending inwards to stria 5, two minute ones behind on intervals 4 and 6 respectively *subnotatus*, sp. n.
- 8 (7). Elytral spots yellow, front one small, rather behind shoulder, extending inwards to stria 7, hind one small, quadrate, on intervals 6–8, another minute spot on interval 4 *jucundus*, sp. n.
- 9 (2). Prothorax reddish, elytra with yellow fasciæ.
- 10 (13). Prothorax half as wide again as long, elytra coarsely and confluent punctate.
- 11 (12). Prothorax dark red, elytra without sutural red patch; eyes small, very prominent, pedunculate *cauliops* Bates.
- 12 (11). Prothorax light red, elytra with sutural red patch reaching to midway between fasciæ; eyes moderately prominent, not pedunculate *rubellus* Bates.
- 13 (10). Prothorax a third as wide again as long, dark red, elytra moderately and not confluent punctate, without sutural red patch *sikkimensis*, sp. n.
- 14 (1). Upper surface variegated: head metallic green or blue, prothorax red (at least at base), elytra dark (at least on apical half) with two interrupted whitish fasciæ (exceptionally with white spots); prothorax closely but not coarsely punctate.
- 15 (22). Elytra with a red sutural stripe from base to apex, merging in white spot (when present) at apex.
- 16 (17). Prothorax blue with red base, elytra violet-blue, with wide dirty-white fasciæ from sutural stripe to side margins *venustus*, sp. n.
- 17 (16). Prothorax red, elytral fasciæ not reaching margin.
- 18 (19). Shoulders and epipleuræ of elytra coarsely punctate; front fascia hardly reaching externally beyond stria 6 *virescens*, sp. n.
- 19 (18). Shoulders and epipleuræ of elytra not coarsely punctate; front fascia reaching at least to stria 8.
- 20 (21). Elytra moderately convex, front fascia reaching stria 8, hind fascia as wide as front one, oblique *dicksoni* Wat.
- 21 (20). Elytra flat on disk, front fascia reaching stria 9, hind fascia very narrow, bent sharply backwards soon after leaving sutural stripe *suturalis* Fleut.
- 22 (15). Elytra with or without red sutural stripe or scutellary patch; when present, not reaching beyond hind fascia.
- 23 (28). Elytra without red sutural stripe or scutellary patch (though the scutellum itself is red).

- 24 (25). Elytra green, with fairly wide yellow-white fasciæ; prothorax red, with two dark spots on disk, one on each side of median line..... *belli*, sp. n.
- 25 (24). Elytra black with narrow fasciæ, prothorax concolorous.
- 26 (27). Prothorax considerably wider than head, elytra with a small light spot at apex, sides of front fascia tapering inwards..... *acuticollis* Fairm.
- 27 (26). Prothorax very little wider than head, elytra without light spot at apex, front fascia of nearly equal width throughout *lebioides* Bates.
- 28 (23). Elytra with a red sutural stripe or scutellary patch.
- 29 (30). Ground colour of elytra green, each elytron with 4 white spots. Length 4.0 mm. *dabreni*, sp. n.
- 30 (29). Ground colour of elytra black or very dark blue. Length at least 4.5 mm.
- 31 (36). Elytra with the whole of the basal area red.
- 32 (33). Elytra with red basal area reaching hind fascia, without dark line at margin between shoulders and front fascia, prothorax often blue with base only red *modestus* Schaum.
- 33 (32). Elytra with red basal area not reaching hind fascia, a dark line at margin between shoulders and front fascia.
- 34 (35). Prothorax red, ground colour of elytra dull black. Length 7.0 mm. *dux*, sp. n.
- 35 (34). Prothorax with base red and apex blue (in varying proportions), ground colour of elytra dark blue, faintly shining. Length 4.5 mm. *v. insularis*, nov.
- 33 (31). Elytra with sutural area only red (to a greater or less width), shoulders always dark.
- 37 (42). Red sutural area on elytra joining hind fascia.
- 38 (39). Elytra half as long again as wide, shoulders not prominent; hind angles of prothorax acute, a distinct emargination between them and middle of base *nair* Maindr.
- 39 (38). Elytra about a fourth as long again as wide, shoulders prominent; hind angles of prothorax right, with only a slight emargination between them and middle of base.
- 40 (41). Elytra with red sutural stripe covering intervals 1-3 at base, 1-2 between fasciæ *littoralis* Motch.
- 41 (40). Elytra with red sutural stripe covering intervals 1-5 at base, tapering to 1-3 at hind fascia ... *v. humeralis*, nov.
- 42 (37). Red sutural area on elytra not joining hind fascia.
- 43 (44). Red sutural area on elytra reaching level of hind fascia, but separated from it *v. ceylonicus* Dup.
- 44 (43). Red sutural area on elytra not or hardly extending behind the front fascia.
- 45 (46). Elytral fasciæ reaching margin, neck red *vitalisi*, sp. n.
- 46 (45). Elytral fasciæ not reaching margin, neck dark.
- 47 (48). Hind angles of prothorax right, quite inconspicuous, a minute indentation between them and middle of base *coarctatus* Laf.
- 48 (47). Hind angles of prothorax acute, a deep emargination between them and middle of base.
- 49 (50). Front elytral fascia covering intervals 5-8, hind one evidently oblique, moderately wide, covering intervals 3-8 *v. nilgirinus*, nov.
- 50 (49). Front elytral fascia covering intervals 4-8, hind one only slightly oblique, narrow, covering intervals 2-8 *eucharis* Bates.

CALLISTOMIMUS CHALCOCEPHALUS Wied. (Plate I. fig. 1.)

Callistomimus messii Bates.do. do. var. *quadristigma* Bates.

Wiedemann's type, which I have recently seen at Copenhagen, was alleged to come from Java and may have done so, though I have seen no other example from the Malay region. He was in the same paper also describing species from Bengal, and I think it possible that his insect came from that locality.

Bates described his *C. messii* from Hong Kong, and *C. quadristigma* from Burma. The former is identical with Wiedemann's species: of the latter, which has rather larger yellow spots on the elytra, Bates says "Probably not more than a local race of" *C. messii*, with which I quite agree.

I have before me specimens of the type form from Hong Kong, and from Tonkin—Than Moi (*R. Vitalis de Salvaza*), of the variety (in addition to cotypes from the Fea collection) specimens from Laos—Vientiane (*R. Vitalis de Salvaza*), Cochin-China—Bien-hoa (*Coll. Fleutiaux*), and Burma—Rangoon (*H. L. Andrewes*); also intermediate forms, as regards the size of the yellow spots, from Burma—Maymyo (*H. L. Andrewes*), Sikkim—Gopaldhara (*H. Sterens*), and Dehra Dun (*Indian Museum and Forest Res. Inst.*). An example from Kumaon—W. Almora (*H. G. Champion*) has very small elytral spots, and the upper surface, as in all Indian specimens I have seen, is more strongly punctate than in the China and Burma forms. The example taken by Dr. Stoliczka in the Jhelam Valley (Second Yarkand Mission), and determined by Bates as *C. chalconcephalus*, is now fragmentary, the head and prothorax having disappeared, but the elytra seem to be those of the species under consideration, with the yellow spots well developed. Bates indicates in his paper no feeling of doubt regarding this determination, but he put two marks of interrogation on his label. With such slender Indian material available it seems useless to put names to any of the slightly varying forms.

C. chlorocephalus Kollar has not to my knowledge been identified as yet, and, like Wiedemann's species, it was evidently unknown to Chaudoir. The locality is uncertain, but Kollar thought the specimen probably came from India. The figure is a poor one, but, judging by the hind angles of the prothorax, I think the species will prove to be identical with *chalconcephalus**.

C. quadriguttatus Putz. is probably also the same thing, but I have unfortunately not yet ascertained the whereabouts of Putzeys' types.

CALLISTOMIMUS SIKKIMENSIS, sp. n. (Plate I. fig. 5.)

Length 5.5 mm.

Black. Head metallic green; prothorax red, with a vague dark faintly aneous patch on disk on each side of median line; elytra

* Dr. Holdhaus has kindly compared a specimen of *C. chalconcephalus*, which I sent to him, with Kollar's type in the Vienna Museum, and finds the species to be different. The type is unfortunately a "ruin," so that he cannot send it to me for examination.

with a very faint brassy tinge, each with two interrupted yellow fasciæ; joints 1-3 of antennæ, palpi, and legs flavous; buccal organs, underside of head, epipleuræ of prothorax, and a faint common spot at apex of elytra more or less testaceous.

Head (1.0 mm. wide) convex, moderately and closely punctate, hardly less closely on middle of front than elsewhere, labrum truncate, maxillæ not longer than mandibles; antennæ nearly half the length of body, the 8 apical joints wide, flattened, and quite black. *Prothorax* (1.2 mm. wide) not much wider than long, convex, sides moderately rounded in front, sinuate before hind angles, which are acute, reflexed, and point both outwards and backwards; median line and basal foveæ deep, surface closely and coarsely punctate. *Elytra* (2.10 x 3.0 mm.) ovate, convex, with well marked shoulders, striæ fairly deep and finely punctate, intervals moderately but closely punctate, the punctures hardly confluent; front fascia from stria 3 to margin, transverse, widening a little at margin towards shoulder and tingeing the epipleura with yellow; hind fascia from stria 3 to 9, a little oblique outwards and backwards. Underside shiny, moderately punctate, rather more closely and finely on ventral surface. Practically the whole body is shortly pubescent.

Much smaller than *C. chalconcephalus*; head more finely and more uniformly punctate, eyes less prominent, prothorax red (not æneous), much narrower and more strongly sinuate before hind angles, elytra relatively longer and narrower, more finely punctate, the yellow markings differently shaped.

Sikkim, Gopaldhara (*H. Stevens*), 1 ex. ♂. Mr. Stevens has kindly allowed me to retain the type.

CALLISTOMIMUS SUBNOTATUS, sp. n.

Length 5.75 mm. Width 2.50 mm.

This species bears so strong a likeness to *C. jucundus* m., next described, that I need do no more than point out the characters in which it differs.

Colour (except for elytral markings) identical. *Head* and *prothorax* more coarsely and less closely punctate. *Elytra* more coarsely and confluent punctate, a little more shiny: front spot reddish, larger, elongate, covering the whole shoulder from margin to stria 5 (and including the epipleura), produced backwards along the two outer intervals to very nearly half the length of the elytra; two minute reddish hind spots, one placed on interval 4, as in some examples of *C. jucundus*, the other a little further back on interval 6.

Cambodia, Kompong Kedey, April 1914. 1 ex. ♀ (*R. Vitalis de Salvaza*). The type is in the British Museum.

CALLISTOMIMUS JUCUNDUS, sp. n. (Plate I. fig. 2.)

Length 6.0 mm. Width 2.50 mm.

Black. Head æneous, prothorax above and beneath with bluish reflection, elytra with a faint green tinge; mouth-parts

joints 1-3 of antennæ, two spots on each elytron, epipleuræ of elytra adjacent to front spot, and legs testaceous yellow.

Head (1.20 mm. wide) convex, shiny, pubescent, very coarsely punctate; clypeus, neck, and a small foveiform area on middle of front and vertex smooth and polished, eyes prominent. *Prothorax* convex, rather narrow, not much wider than head (with eyes), a third wider than long, sides rounded, sinuate before hind angles, which are acute, reflexed, and directed backwards; median line rather deep; surface closely, coarsely, and confluent punctate, with yellowish pubescence. *Elytra* convex, rather square at shoulder, widest behind middle, nearly twice as wide and two and a half times as long as prothorax, punctate-striate, intervals 2 and 4 a little narrower than the adjacent ones; surface densely punctate (but much less coarsely than prothorax), punctures more or less laterally confluent; front spot small, triangular, behind shoulder, widening from stria 7 to margin, hind spot small, square, at a fourth from apex, covering intervals 6-8. In some examples there is a small additional spot on interval 4, a little in advance of the hind spot. All sterna coarsely, ventral surface more finely punctate, pubescent.

A good deal smaller than *C. quadristigma* Bates, head and prothorax much narrower, the latter darker in colour and less contracted at extremities, elytral puncturation similar, but yellow spots much smaller.

Nilgiri Hills, Ouchterlony Valley, 3500 ft., July, "running among beams on the ground" (*H. L. Andrewes*), 3 ex. ♂ ♀. Bombay: N. Kanara (*T. R. D. Bell*), 2 ex. The type (♂) is in my collection.

CALLISTOMIMUS VENUSTUS, sp. n. (Plate I. fig. 6.)

Length 6.0 mm. Width 2.25 mm.

Black. Mouth-parts (exc. last joint of palpi fuscous), antennal joints 1, 2, and underside of 3, and epipleuræ of elytra (exc. at shoulder) testaceous; head and prothorax blue or blue-green, with red base and side-margins; elytra violet-blue, suture red over intervals 1 and 2, and for basal third over interval 3; two interrupted fasciæ on elytra, apical margin, and legs yellow-white (apex of femora, tibiæ, and tarsal joints fuscous); metasternum and ventral surface (last segment darker) brown.

Head (about 1.0 mm. wide) shiny, a little less convex but more pubescent and punctate than in allied species, the usually smooth space on middle of front with one or two coarse punctures, neck smooth, eyes prominent. *Prothorax* relatively flat, rather small, hardly wider than head with eyes, nearly half as wide again as long, sides rounded in front, contracted behind, and sinuate before hind angles, which are acute and project both laterally and a little backwards; transverse impressions, median line, and basal foveæ all well marked; surface closely and confluent punctate, and pubescent. *Elytra* square at shoulders, nearly parallel, rather flat, twice as wide and three times as long

as prothorax, weakly striate, the whole surface rather dull and finely aciculate-punctate; front fascia at a third from base, not very wide, but widening outwards from stria 3 to margin; hind fascia at a third from apex, of about same width as front one, widening from stria 2 to margin. Underside moderately pubescent, last ventral segment more strongly so and transversely subrugose.

Distinguished from its congeners by its small prothorax, square shoulders, and especially by the fact that the colour of the red scutellary patch extends along the suture to apex.

Laos: Pak Tha, Paklung and Ban Saleun, 16 ex. ♂ ♀ (*R. Vitalis de Salvaza*). The type is in the British Museum.

CALLISTOMINUS VIRESCENS, sp. n. (Plate I. fig. 7.)

Length 5 mm. Width 2 mm.

Black. Head blue, prothorax red with purplish reflections on upper surface, a sutural stripe on the elytra yellow-red, elytra velvety blue-black with metallic blue-green lustre on shoulders and along sides; two fasciæ on elytra (interrupted by the sutural stripe) and apical margin, joints 1-3 of antennæ, palpi (exc. apex), front margin of labrum, and legs (exc. apex of femora) yellow-white.

Head (about 1.0 mm. wide) convex, shiny, coarsely punctate at sides, smooth and highly polished along median line and on neck; maxillæ as long as mandibles. *Prothorax* very convex, a little transverse, just wider than head, sides bordered and strongly rounded, more contracted behind than in front, hind angles in form of a minute right-angled tooth, with sides of base advancing towards them, median line short but deep; surface coarsely but not very closely punctate, faintly pubescent. *Elytra* punctate-striate, intervals flat, punctate at sides but not evidently so on disk, pubescent, base with a strongly marked border, region of the shoulder irregularly punctate and rugose, epipleuræ coarsely punctate; sutural stripe covering intervals 1 and 2 (more or less), front fascia at a fourth from base, narrow, reaching stria 6, hind fascia at a third from apex, wider, reaching stria 9.

Allied to *C. suturalis* Flt., but a little smaller, hind angles of prothorax less evident, elytra more convex, sutural stripe narrow at apex and lighter in colour, hind fascia much broader, shoulders and sides much more rugosely sculptured. The very coarse puncturation of the elytral epipleuræ at once distinguishes the species from its congeners.

Burma: Tharrawaddy, 2 ex. ♂ ♀ (*G. Q. Corbett*). The type is in my collection.

CALLISTOMINUS BELLI, sp. n. (Plate I. fig. 8.)

Length 4.25 mm. Width 1.75 mm.

Black. Head dark metallic green with purplish reflections; prothorax brick-red with a small rather faint purplish spot on each side of disk; elytra dark green; mouth-parts, joints 1-3 of

antennæ, underside of head and prothorax (exc. prosternal process and region round front coxæ), epipleuræ of elytra, two interrupted fasciæ on elytra (with a purplish border), a common apical spot and margin, testaceous; legs (exc. apex of femora, which is fuscous) yellow-white.

Head (barely 1.0 mm. wide) shiny, convex, pubescent, coarsely punctate over whole surface (exc. clypeus and labrum), though a little less closely on middle of front, neck smooth, eyes prominent. *Prothorax* moderately convex, rather wider than head, sides rounded and a little sinuate before hind angles, which are acute, slightly reflexed, and directed outwards and backwards; surface densely but not coarsely punctate and covered with a close, dark pubescence. *Elytra* rather ovate, about half as wide again as prothorax, punctate-striate, surface aciculate-punctate and pubescent; interval 2 narrowing towards base and 6 towards apex; front fascia at a third from base, a little wider than in the allied species, extending from the middle of interval 3 to margin, where it widens out both in front and behind, an indentation of the ground colour in front on interval 6; hind fascia oblique (outwards and backwards), extending from stria 2 to margin; apical spot a little larger than in the allied species. Underside moderately punctate and pubescent, prosternal process bordered, last ventral segment transversely substrigose.

Not unlike *C. lebioides* Bates in form, but quite different in coloration. Prothorax less transverse, less coarsely punctate, hind angles much more evident; fasciæ on elytra much wider and extending to margin, an apical white spot (absent in *lebioides*). The species are alike in the absence of a red scutellary patch.

Bombay: North Kanara, Kadra, 11. vii. 1907, 2 ex. ♂ ♀ (*T. R. D. Bell*). The type is in my collection.

CALLISTOMIMUS ACUTICOLLIS Fairm.

CALLISTOMIMUS YUNNANUS Maindr.

Both these species were described from Yunnan, and I have at different times seen the types of both, though I have not been able to compare them. I have before me the type of *yunnanus*, which agrees with Fairmaire's description and with some notes I made on the type of *acuticollis*. I think the species are identical.

I have seen further examples from Djoukoulou, Yunnan, in the collection of Mr. H. de Touzalin.

CALLISTOMIMUS D'ABREUI, sp. n. (Plate I. fig. 9.)

Length 4.0 mm. Width 1.5 mm.

Black. Head dark æneous with purplish reflections; prothorax and a scutellary patch red, former with an ill-defined purplish spot on each side of disk; elytra deep green, each with four white spots; mouth-parts, underside of joint 1 and base of joints 1 and 2 of antennæ, epipleuræ, and margin of elytra testaceous, sterna and coxæ reddish, trochanters and femora yellow-white. In the ♂

specimen (type) the tibiae and tarsi are fuscous, in the two ♀ ♀ specimens they are yellow-white.

Head (0.90 mm. wide) shiny, convex, slightly pubescent, coarsely punctate at sides and back, vertex and middle of front smooth and polished, eyes moderately prominent, maxillæ a little longer than mandibles. *Prothorax* narrow, just wider than head, not much wider than long, sides rounded in front, strongly contracted behind, sinuate just before hind angles, which are right; surface closely and coarsely punctate, pubescent. *Elytra* about half as wide again as prothorax, square at shoulder, widest at about middle, punctate-striate, intervals rather convex, the whole surface finely aciculate-punctate, dull viewed from above, but a little shiny when viewed sideways; the red scutellary patch extending half-way to apex, bounded on each side at base by stria 2, but tapering behind; the front white spot, at a fourth from base, extends from interval 4 to margin (it is rounded on intervals 5-7, contracted on 8, and expanded again on 9); the hind spot, also rounded but a little larger, at a fourth from apex, covers intervals 5-7; the two remaining spots are minute, one on interval 3 just behind the end of the scutellary patch, the other at extreme apex. Underside sparsely, ventral surface (exc. at sides) more strongly punctate and pubescent.

India: Central Provinces, Mandla district, Chiriadangra, Nerbudda bank, 7.xii.1916 (*E. A. D'Abreu*), 1 ex. ♂ (type). U.P.: Sitapur, July 1917 (*H. G. Champion*), 1 ex. ♀ (defective) Bihar: Pusa, 1 ex. ♀ — Agric. Res. Inst. Pusa. Mr. D'Abreu has kindly allowed me to keep the type in my collection.

CALLISTOMIMUS MODESTUS Schaum.

Callistomimus amabilis Redt. (*in litt.*) Reis. Novar. ii. 1867, Col. 20.

The species was described from Hongkong, and I have not seen the type; there seems to be no doubt regarding the identification, and, as it is probably the best known species in the genus, I think it unnecessary to prepare a fresh description.

The name *amabilis* was introduced by Redtenbacher, who attributed it to Chaudoir; the latter mentions the name when describing the genus, but attributes it to Redtenbacher. I cannot find that either author published a description, and it seems a pity that it should have got into circulation.

Var. *humeralis*, nov.

Schaum gives no hint of a dark spot on the shoulder, but Bates refers to a small black shoulder-spot on some of the examples taken by Mr. Fea in Burma, one of which is in my collection; the specimen described by Fairmaire from Tonkin is similarly marked. A specimen in the Paris Museum, also from Tonkin, another from Bengal—Sarda (*F. W. Champion*), and other Indian examples in the British Museum, all have this spot more fully developed, and I think the form is worthy of a name.

Var. *insularis*, nov.

Mr. Guy Babault has kindly sent me an example (there being others I understand in his collection) which comes from Java, which has a narrow black longitudinal line behind the shoulder, and in which the two parts of the hind fascia are quite detached from the reddish area in front, so that they appear as transverse whitish spots on a blue-black ground, which covers the apical half of the elytra. In the Brussels Museum there are also three examples of this form labelled "Semarang (*Drescher*)"*; in these the hind fascia is less widely separated from the red area in front.

CALLISTOMIMUS DUX, sp. n. (Plate I. fig. 10.)

Length 7.0 mm. Width 2.60 mm.

Black. Head dark blue, prothorax (above and beneath) dull red with faint purplish reflections, basal two-fifths of elytra brick-red, the coloured area bulging in the middle and reaching to halfway between base and apex, two transverse fasciæ (front one very short, submarginal) and extreme apex yellow-white, joint 1 of antennæ (rest wanting) and legs (exc. apex of femora) testaceous, margin of elytra (exc. just below shoulders) infusate.

Head (2.40 mm. wide) convex, shiny, very coarsely punctate; vertex, middle of front (exc. for one or two punctures), and clypeus smooth, eyes prominent. *Prothorax* (2.60 mm. wide) convex, very transverse, sides strongly rounded, much contracted at extremities, but more so behind than in front, hind angles in the form of a small right-angled tooth, a little in front of apparent base; median line faint, basal foveæ round and deep, surface coarsely and confluent punctate. *Elytra* oval, flat, punctate-striate, intervals nearly flat, finely punctate, (presumably) pubescent; front fascia from stria 5 to 8, merging in colour of basal area, hind one moderately broad, oblique, from stria 1 to 9. Underside moderately and rather coarsely punctate, more finely on ventral surface.

Burma: Prome (*G. Q. Corbett*), 1 ex. ♂. Type in my collection.

The species is so widely different from all others known to me that I have described it with a view to making my note on the Oriental species of the genus as complete as possible. The unique example, however, is defective, especially in regard to the antennæ, tarsi, and buccal organs.

CALLISTOMIMUS NAIR, Maindr., var. *nilgirinus*, nov.

I have in my collection an example of Maindron's species, which I have had the opportunity of comparing with a typical specimen kindly sent to me for examination by Mr. Guy Babault. My specimen agrees almost exactly with Maindron's, which came from Mahé on the Malabar Coast: the only difference I detect is in the elytral fasciæ, which are narrower, the hind one being also

* In reply to an enquiry of mine, Commandant Dupuis writes: "Etiquette d'un envoi reçu du Musée de Sarawak (Bornéo), sans autre précision, mais les insectes provenaient tous, je crois, de récoltes faites dans la région."

less regular in outline and wider near the suture than near the margin. This specimen was taken in the Nilgiri Hills by Mr. H. L. Andrewes, and his note reads "Ouchterlony Valley, December, 3500 ft. Flooded out during irrigation of tea."

A second specimen (♂) was also taken by Mr. Andrewes in the Nilgiri Hills, but I have no note of the exact locality. It is of the same size as *C. nair* and does not seem to differ structurally, but there are distinct differences in the coloration. Joints 5-11 of the antennæ and the front tarsi are brown instead of black; the margin of the elytra is only vaguely reddish, there is only a suggestion of a scutellary red patch, and this does not extend beyond the front fascia; this latter is very small and its sides taper inwards from stria 8 to 4, the hind fascia is rather wider than the front one and extends from stria 8 to 2, neither of the fasciæ reaching the margin. Whether this form will prove to be a local race, or a mere aberration, remains to be seen, and for the present I call it var. *nilgirinus*.

CALLISTOMIMUS LITTORALIS Motch. (Plate I. fig. 11.)

Callistomimus westwoodi Schaum.

Length 4.5 mm. Width 2.0 mm.

Black. Head and front margin of prothorax greenish-blue; rest of prothorax (upper side) and a sutural stripe, bounded at sides by stria 2 and extending backwards to the hind fascia, dull red (the sutural stripe widens to stria 3 at the front fascia); elytra dark blue; two interrupted fasciæ on elytra (exc. on intervals 3, 4 and 9 of hind one, where reddish), apical margin, a common apical spot, and legs (exc. apex of femora and tibiæ fuscous) yellow-white; underside of prothorax, meso- and metasterna, side margins and epipleuræ of elytra, and buccal organs testaceous.

Head (0.8 mm. wide) convex, closely and coarsely punctate, except on neck, clypeus, and middle of front, surface finely rugose, eyes prominent, maxillæ elongate but not really reaching beyond mandibles, labrum emarginate. *Prothorax* (1.10 mm. wide) convex, a little transverse, sides strongly rounded and contracted behind, hind angles small and sharply rectangular, surface moderately but closely punctate and pubescent. *Elytra* (2.75 mm. long) shortly ovate, punctate-striate, pubescent; front fascia at a fourth from base, widening out from sutural line to margin; hind fascia extending obliquely backwards to margin, constricted on stria 4. Underside finely punctate and pubescent.

For a comparison with *C. coarctatus* Laf., see under that species.

I have seen examples from various localities in North, Central and Southern India, but not from Sind. The var. *ceylonicus* Dupuis from Ceylon is apparently a variety of this species and not of *C. coarctatus**.

* I have recently seen a cotype of the variety, which Dr. W. Horn kindly sent to me for examination. It proves as I anticipated to be a var. of *littoralis*.

CALLISTOMIMUS COARCTATUS Laferté. (Plate I. figs. 12, 12 *a*, and 12 *b*.)

Length 5.50–5.75 mm. Width 2.0–2.25 mm.

Black. Head metallic blue; prothorax above (with purplish reflections), and beneath (exc. middle of sternum), a scutellary patch on elytra (tapering rather abruptly at extremity, reaching nearly half-way to apex, and bounded at sides by stria 4), and mouth-parts red; elytra blue-black with faint metallic lustre; two interrupted fasciæ on elytra, apical margin and a common apical spot, palpi (exc. apical joint), underside of joints 1–3 of antennæ, trochanters, femora (exc. apex), upper side of tibiæ (exc. apex), and tarsal joints (exc. apex) yellow-white.

Head (about 1.0 mm. wide) convex, shiny, more or less pubescent, coarsely but not closely punctate, smooth and highly polished on middle of front, vertex, and neck; eyes prominent, maxillæ of approximately same length as mandibles. *Prothorax* (about 1.30 mm. wide) convex, transverse, strongly rounded at sides and contracted behind, sinuate before the sharp—almost acute—hind angles; surface densely and coarsely punctured, pubescent. *Elytra* punctate-striate, intervals moderately punctate, pubescent; front fascia, at a third from base, extending on each side from the sutural red patch at stria 4 to 8; hind fascia, slanting a little backwards from suture towards margin, extending from stria 2 to 9, but not reaching margin. Underside shiny, lightly punctate and pubescent.

Closely allied to *Ö. littoralis* Motch., but larger. Head less closely punctate, prothorax more transverse and more coarsely punctate, hind angles a little more evident. In *littoralis* the front elytral fascia extends to the margin, and the red sutural patch (which in *coarctatus* stops half-way between the two fasciæ) extends backwards and joins the hind fascia.

The species seems to be confined to the Himalayas. It has been taken in Kumaon by Dr. S. W. Kemp and (in considerable numbers) by Mr. H. G. Champion, in Spiti by Mr. Guy Babault, and in Sikkim by Mr. H. Stevens and Mr. F. H. Gravely. An example from Kurseong is in the collection of Mr. H. de Touzalin.

CALLISTOMIMUS VITALISI, sp. n.

Length 6.5 mm. Width 2.5 mm.

Black. Head (exc. neck) æneous green; upper surface of neck and prothorax (latter with some ill-defined small purplish spots), and a scutellary patch on elytra red; underside of neck and prothorax, joints 1–3 of antennæ, front coxæ and mouth-parts (exc. apical joint of palpi, which is fuscous) testaceous; legs (exc. middle and hind coxæ, and apex of all femora, which are black), two interrupted fasciæ and a common apical spot on elytra, together with margin, yellow-white.

Head (about 1.0 mm. wide), shiny, convex, slightly pubescent, moderately punctate, but smooth on neck, middle of front, and clypeus; eyes prominent, maxillæ hardly longer than mandibles. *Prothorax* (about 1.50 mm. wide), a third as wide again as long, moderately convex, sides gently rounded in front, more strongly

behind, hind angles acute, reflexed, and projecting a little backwards; surface closely and coarsely punctate and pubescent. *Elytra* striate, the striae faintly crenulate, intervals flat, finely punctate and pubescent; red scutellary patch ill-defined, extending about one-third towards apex and to stria 4 at sides; front white fascia at a third from base, narrow, extending on each side from stria 4 to margin, where it widens out towards apex; hind fascia at a third from apex, a little wider than front one, extending from stria 1 to margin, curving a little backwards near margin, but hardly increasing in width. Underside shiny, pubescence faint, a little more evident on ventral surface, sterna coarsely but not closely punctate.

In appearance strongly resembling *C. coarctatus* Laf.; a little larger and less brightly coloured; prothorax wider, less convex, much less contracted at extremities and with more conspicuous hind angles; the hind elytral fascia less oblique, and extending inwards to stria 1 (instead of 2). For Bates this species would have been a *Pristomachærus*, on account of the acute and reflexed hind angles of the prothorax.

Tonkin: Hoabinh, 6 ex. ♂ ♀ (*R. Vitalis de Salvaza*). The type is in the British Museum.

CALLISTOMIMUS EUCHARIS Bates.

Putzeys' *C. quadricolor* came from Darjiling, and I do not know where the type is to be found. Bates differentiated his Burmese species from it by the puncturation of the prothorax, apparently the only point of difference which struck him. Mr. H. Stevens has lately sent me from Gopoldhara in Sikkim some specimens which agree exactly with cotypes of *C. eucharis* in my collection, and I think the two species are the same. There must, however, remain some doubt until Putzeys' type is available for examination.

A single defective example in the Brussels Museum, labelled "Central Java, Mt. Oengaran (*A. Koller*)," is evidently a very close ally of this species, but the elytra are a little wider and less deeply striate, the fasciæ being more oblique.

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EXPLANATION OF PLATE I.

Fig. 1. *Callistomimus chalcocephalus* Wied.

2.	"	<i>jucundus</i> Andr.	
3.	"	<i>cauliops</i> Bates.	
4.	"	<i>rubellus</i> Bates.	
5.	"	<i>sikkimensis</i> Andr.	
6.	"	<i>venustus</i> Andr.	
7.	"	<i>virescens</i> Andr.	
8.	"	<i>belli</i> Andr.	
9.	"	<i>d'abreu</i> Andr.	
10.	"	<i>dur</i> Andr.	
11.	"	<i>littoralis</i> Motch.	
12.	"	<i>coarctatus</i> Lat.	
12 a.	"	"	Upper side of head.
12 b.	"	"	Lower side of head.